

# Hydric Soils

Dakota County, Minnesota

[This report lists only those map unit components that are rated as hydric. Dashes (---) in any column indicate that the data were not included in the database. Definitions of hydric criteria codes are included at the end of the report]

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
2B:					
Ostrander loam, 1 to 6 percent slopes	Ostrander	85	Moraines	No	---
	Dickinson	8	---	No	---
	Klinger	7	---	No	---
2C:					
Ostrander loam, 6 to 12 percent slopes	Ostrander	85	Moraines	No	---
	Dickinson	8	---	No	---
	Klinger	7	---	No	---
7A:					
Hubbard loamy sand, 0 to 1 percent slopes	Hubbard	90	Outwash plains	No	---
	Dickinson	10	---	No	---
7B:					
Hubbard loamy sand, 1 to 6 percent slopes	Hubbard	90	Outwash plains	No	---
	Dickinson	10	---	No	---
7C:					
Hubbard loamy sand, 6 to 12 percent slopes	Hubbard	90	Outwash plains	No	---
	Dickinson	10	---	No	---
7D:					
Hubbard loamy sand, 12 to 18 percent slopes	Hubbard	90	Outwash plains	No	---
	Hawick	10	---	No	---
8A:					
Sparta loamy fine sand, 0 to 1 percent slopes	Sparta	90	Outwash plains	No	---
	Dickinson	10	---	No	---
8B:					
Sparta loamy fine sand, 1 to 6 percent slopes	Sparta	90	Outwash plains	No	---
	Dickinson	10	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
12C:					
Emmert very gravelly sandy loam, 3 to 15 percent slopes	Emmert	90	Moraines	No	---
	Kingsley	10	---	No	---
27A:					
Dickinson sandy loam, 0 to 2 percent slopes	Dickinson	90	Outwash plains	No	---
	Hubbard	4	---	No	---
	Sparta	3	---	No	---
	Wadena	3	---	No	---
27B:					
Dickinson sandy loam, 2 to 6 percent slopes	Dickinson	90	Outwash plains	No	---
	Hubbard	4	---	No	---
	Sparta	3	---	No	---
	Zumbro	3	---	No	---
39A:					
Wadena loam, 0 to 2 percent slopes	Wadena	85	Outwash plains	No	---
	Estherville	8	---	No	---
	Kanaranzi	7	---	No	---
39B:					
Wadena loam, 2 to 6 percent slopes	Wadena	85	Outwash plains	No	---
	Estherville	8	---	No	---
	Kanaranzi	7	---	No	---
39B2:					
Wadena loam, 2 to 6 percent slopes, eroded	Wadena, eroded	90	Outwash plains	No	---
	Kennebec	10	---	No	---

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<b>39C:</b>					
Wadena loam, 6 to 12 percent slopes	Wadena	85	Outwash plains	No	---
	Hawick	8	---	No	---
	Kanaranzi	7	---	No	---
<b>39C2:</b>					
Wadena loam, 6 to 12 percent slopes, eroded	Wadena, eroded	90	Outwash plains	No	---
	Kennebec	10	---	No	---
<b>39D:</b>					
Wadena loam, 12 to 18 percent slopes	Wadena	85	Outwash plains	No	---
	Hawick	8	---	No	---
	Kanaranzi	7	---	No	---
<b>41A:</b>					
Estherville sandy loam, 0 to 2 percent slopes	Estherville	90	Outwash plains	No	---
	Wadena	10	---	No	---
<b>41B:</b>					
Estherville sandy loam, 2 to 6 percent slopes	Estherville	90	Outwash plains	No	---
	Wadena	10	---	No	---
<b>42C:</b>					
Salida gravelly coarse sandy loam, 2 to 12 percent slopes	Salida	90	Outwash plains	No	---
	Hawick	10	---	No	---
<b>49B:</b>					
Antigo silt loam, 1 to 8 percent slopes	Antigo	90	Outwash plains	No	---
	Chetek	10	---	No	---
<b>81B:</b>					
Boone loamy fine sand, 2 to 6 percent slopes	Boone	90	Hills	No	---
	Etter	10	---	No	---

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81C:					
Boone loamy fine sand, 6 to 12 percent slopes	Boone	90	Hills	No	---
	Etter	10	---	No	---
81E:					
Boone loamy fine sand, 12 to 40 percent slopes	Boone	100	Hills	No	---
94C:					
Terril loam, 4 to 12 percent slopes	Terril	100	Moraines, Toes	No	---
98:					
Colo silt loam, occasionally flooded	Colo, occasionally flooded	85	Flood plains	Yes	2B3
	Garwin	5	Drainageways	Yes	2B3
	Lawson	5	---	No	---
	Maxfield	5	Drainageways	Yes	2B3
100A:					
Copaston loam, 0 to 2 percent slopes	Copaston	97	Stream terraces	No	---
	Bedrock Outcrops at Surface	3	---	No	---
100B:					
Copaston loam, 2 to 6 percent slopes	Copaston	97	Stream terraces	No	---
	Bedrock Outcrops at Surface	3	---	No	---
100C:					
Copaston loam, 6 to 12 percent slopes	Copaston	97	Stream terraces	No	---
	Bedrock Outcrops at Surface	3	---	No	---
106B:					
Lester loam, 2 to 6 percent slopes	Lester	90	Moraines	No	---
	Le Sueur	10	---	No	---

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106C: Lester loam, 6 to 12 percent slopes	Lester	90	Moraines	No	---
	Le Sueur	10	---	No	---
106C2: Lester loam, 6 to 12 percent slopes, eroded	Lester, eroded	95	Moraines	No	---
	Le Sueur	5	---	No	---
106D2: Lester loam, 12 to 18 percent slopes, eroded	Lester, eroded	100	Moraines	No	---
109: Cordova silty clay loam	Cordova	95	Moraines, Swales	Yes	2B3
	Le Sueur	5	---	No	---
113: Webster clay loam	Webster	85	Moraines, Swales	Yes	2B3
	Glencoe	8	Depressions	Yes	2B3, 3
	Le Sueur	7	---	No	---
114: Glencoe silty clay loam	Glencoe	90	Depressions, Moraines	Yes	2B3, 3
	Webster	10	Swales	Yes	2B3
129: Cylinder loam	Cylinder	85	Outwash plains	No	---
	Marshan	5	Depressions	Yes	2B3
	Wadena	5	---	No	---
	Waukegan	5	---	No	---
150B: Spencer silt loam, 2 to 6 percent slopes	Spencer	90	Moraines	No	---
	Auburndale	5	Depressions	Yes	2B3
	Otterholt	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
151C: Burkhardt sandy loam, 6 to 12 percent slopes	Burkhardt	95	Outwash plains	No	---
	Carmi	5	---	No	---
151D: Burkhardt sandy loam, 12 to 18 percent slopes	Burkhardt	95	Outwash plains	No	---
	Carmi	5	---	No	---
155B: Chetek sandy loam, 3 to 8 percent slopes	Chetek	85	Outwash plains	No	---
	Kingsley	8	---	No	---
	Mahtomedi	7	---	No	---
155C: Chetek sandy loam, 8 to 15 percent slopes	Chetek	85	Outwash plains	No	---
	Kingsley	8	---	No	---
	Mahtomedi	7	---	No	---
155E: Chetek sandy loam, 15 to 25 percent slopes	Chetek	85	Outwash plains	No	---
	Mahtomedi	10	---	No	---
	Kingsley	5	---	No	---
173F: Frontenac silt loam, 25 to 40 percent slopes	Frontenac	100	Hills	No	---
176: Garwin silty clay loam	Garwin	90	Moraines, Swales	Yes	2B3
	Colo	5	Flood plains	Yes	2B3
	Joy	5	---	No	---
177A: Gotham loamy fine sand, 0 to 2 percent slopes	Gotham	97	Outwash plains	No	---
	Soils with loamy glacial till within 40 to 60 inches	3	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
177B: Gotham loamy fine sand, 2 to 6 percent slopes	Gotham	97	Outwash plains	No	---
	Soils with loamy glacial till within 40 to 60 inches	3	---	No	---
177C: Gotham loamy fine sand, 6 to 12 percent slopes	Gotham	97	Outwash plains	No	---
	Soils with loamy glacial till within 40 to 60 inches	3	---	No	---
189: Auburndale silt loam	Auburndale	90	Depressions, Moraines	Yes	2B3, 3
	Quam	10	Depressions	Yes	2B3, 3
203B: Joy silt loam, 1 to 5 percent slopes	Joy	90	Hills	No	---
	Garwin	5	Drainageways	Yes	2B3
	Port Byron	5	---	No	---
208: Kato silty clay loam	Kato	95	Flats, Outwash plains	Yes	2B3
	Cylinder	5	---	No	---
213B: Klinger silt loam, 1 to 5 percent slopes	Klinger	90	Moraines	No	---
	Maxfield	5	Drainageways	Yes	2B3
	Ostrander	5	---	No	---
226: Lawson silt loam	Lawson	90	Flood plains	No	---
	Colo	5	Flood plains	Yes	2B3
	Minneiska	5	---	No	---

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239:					
Le Sueur loam	Le Sueur	85	Moraines	No	---
	Cordova	8	Swales	Yes	2B3
	Lester	7	---	No	---
250:					
Kennebec silt loam	Kennebec	100	Outwash plains	No	---
251D:					
Marlean loam, 12 to 18 percent slopes	Marlean	95	Hills	No	---
	Terril	5	---	No	---
251E:					
Marlean loam, 18 to 25 percent slopes	Marlean	95	Hills	No	---
	Terril	5	---	No	---
252:					
Marshan silty clay loam	Marshan	90	Flats, Outwash plains	Yes	2B3
	Cylinder	10	---	No	---
253:					
Maxcreek silty clay loam	Maxcreek	90	Moraines, Swales	Yes	2B3
	Merton	10	---	No	---
255:					
Mayer silt loam	Mayer	90	Flats, Outwash plains	Yes	2B3
	Cylinder	10	---	No	---
279B:					
Otterholt silt loam, 1 to 6 percent slopes	Otterholt	85	Moraines	No	---
	Auburndale	8	Depressions	Yes	2B3
	Kingsley	7	---	No	---



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279C: Otterholt silt loam, 6 to 15 percent slopes	Otterholt	85	Moraines	No	---
	Auburndale	8	Depressions	Yes	2B3
	Kingsley	7	---	No	---
283A: Plainfield loamy sand, 0 to 2 percent slopes	Plainfield	95	Outwash plains	No	---
	Dickinson	5	---	No	---
283B: Plainfield loamy sand, 2 to 6 percent slopes	Plainfield	95	Outwash plains	No	---
	Dickinson	5	---	No	---
283D: Plainfield loamy sand, 6 to 18 percent slopes	Plainfield	95	Outwash plains	No	---
	Hawick	5	---	No	---
285A: Port Byron silt loam, 0 to 2 percent slopes	Port Byron	95	Hills	No	---
	Lindstrom	5	---	No	---
285B: Port Byron silt loam, 2 to 6 percent slopes	Port Byron	90	Hills	No	---
	Lindstrom	10	---	No	---
285C: Port Byron silt loam, 6 to 12 percent slopes	Port Byron	90	Hills	No	---
	Lindstrom	10	---	No	---
299A: Rockton loam, 0 to 2 percent slopes	Rockton	100	Hills	No	---
299B: Rockton loam, 2 to 6 percent slopes	Rockton	100	Hills	No	---
299C: Rockton loam, 6 to 12 percent slopes	Rockton	100	Hills	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
301B: Lindstrom silt loam, 1 to 4 percent slopes	Lindstrom	100	Hills	No	---
313: Spillville loam, occasionally flooded	Spillville, occasionally flooded	100	Flood plains	No	---
317: Oshawa silty clay loam	Oshawa	95	Flood plains, Oxbows	Yes	2B3, 3, 4
	Minneiska	5	---	No	---
318: Mayer loam, swales	Mayer, swales	90	Depressions, Outwash plains	Yes	2B3, 3
	Cylinder	10	---	No	---
320B: Tallula silt loam, 2 to 6 percent slopes	Tallula	90	Hills	No	---
	Lindstrom	10	---	No	---
320C2: Tallula silt loam, 6 to 12 percent slopes, eroded	Tallula, eroded	90	Hills	No	---
	Lindstrom	10	---	No	---
342B: Kingsley sandy loam, 3 to 8 percent slopes	Kingsley	85	Moraines	No	---
	Auburndale	5	Depressions	Yes	2B3
	Chetek	5	---	No	---
	Kennebec	5	---	No	---
342C: Kingsley sandy loam, 8 to 15 percent slopes	Kingsley	85	Moraines	No	---
	Auburndale	5	Depressions	Yes	2B3
	Chetek	5	---	No	---
	Kennebec	5	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>342E:</b>					
Kingsley sandy loam, 15 to 25 percent slopes	Kingsley	85	Moraines	No	---
	Chetek	8	---	No	---
	Kennebec	7	---	No	---
<b>342F:</b>					
Kingsley sandy loam, 25 to 40 percent slopes	Kingsley	100	Moraines	No	---
<b>344:</b>					
Quam silt loam	Quam	90	Depressions, Moraines	Yes	2B3, 3
	Kennebec	5	---	No	---
	Palms	5	Depressions	Yes	1, 3, 4
<b>377B:</b>					
Merton silt loam, 1 to 6 percent slopes	Merton	90	Moraines	No	---
	Blooming	5	---	No	---
	Maxcreek	5	Swales	Yes	2B3
<b>378:</b>					
Maxfield silty clay loam	Maxfield	90	Moraines, Swales	Yes	2B3
	Colo	5	Flood plains	Yes	2B3
	Klinger	5	---	No	---
<b>382B:</b>					
Blooming silt loam, 1 to 6 percent slopes	Blooming	90	Moraines	No	---
	Merton	10	---	No	---
<b>408:</b>					
Faxon silty clay loam	Faxon	90	Flats, Stream terraces	Yes	2B3
	Oshawa	5	Flood plains	Yes	2B3, 3
	Seelyeville	5	Depressions	Yes	2B3, 3, 4

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
409B: Etter fine sandy loam, 2 to 6 percent slopes	Etter	90	Hills	No	---
	Wadena	10	---	No	---
409C: Etter fine sandy loam, 6 to 12 percent slopes	Etter	90	Hills	No	---
	Wadena	10	---	No	---
411A: Waukegan silt loam, 0 to 1 percent slopes	Waukegan	90	Outwash plains	No	---
	Estherville	5	---	No	---
	Kanarazni	5	---	No	---
411B: Waukegan silt loam, 1 to 6 percent slopes	Waukegan	90	Outwash plains	No	---
	Estherville	5	---	No	---
	Kanarazni	5	---	No	---
411C: Waukegan silt loam, 6 to 12 percent slopes	Waukegan	90	Outwash plains	No	---
	Kanarazni	10	---	No	---
414: Hamel silt loam	Hamel	90	Moraines, Swales	Yes	2B3
	Glencoe	5	Drainageways, Swales	Yes	2B3, 3
	Le Sueur	5	---	No	---
415A: Kanaranzi loam, 0 to 2 percent slopes	Kanaranzi	100	Outwash plains	No	---
415B: Kanaranzi loam, 2 to 6 percent slopes	Kanaranzi	100	Outwash plains	No	---
415C: Kanaranzi loam, 6 to 12 percent slopes	Kanaranzi	100	Outwash plains	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
449B: Crystal Lake silt loam, 1 to 8 percent slopes	Crystal Lake	100	Moraines	No	---
454B: Mahtomedi loamy sand, 3 to 8 percent slopes	Mahtomedi	85	Moraines, Outwash plains	No	---
	Kingsley	15	---	No	---
454C: Mahtomedi loamy sand, 8 to 15 percent slopes	Mahtomedi	85	Outwash plains	No	---
	Kingsley	15	---	No	---
454E: Mahtomedi loamy sand, 15 to 25 percent slopes	Mahtomedi	85	Outwash plains	No	---
	Kingsley	8	---	No	---
	Kennebec	7	---	No	---
463: Minneiska loam, occasionally flooded	Minneiska, occasionally flooded	85	Flood plains	No	---
	Oshawa	8	Flood plains	Yes	2B3, 3, 4
	Colo	7	Flood plains	Yes	2B3
465: Kalmarville sandy loam, frequently flooded	Kalmarville, frequently flooded	100	Flood plains	Yes	2B3, 4
495: Zumbro fine sandy loam	Zumbro	100	Flood plains	No	---
522: Boots muck	Boots	100	Depressions, Moraines	Yes	1, 3, 4
539: Palms muck	Palms	100	Depressions, Moraines	Yes	1, 3, 4
540: Seelyeville muck	Seelyeville	100	Depressions, Moraines	Yes	1, 3, 4

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
545: Rondeau muck	Rondeau	100	Depressions, Moraines	Yes	1, 3, 4
611C: Hawick coarse sandy loam, 6 to 12 percent slopes	Hawick	90	Outwash plains	No	---
	Salida	10	---	No	---
611D: Hawick coarse sandy loam, 12 to 18 percent slopes	Hawick	90	Outwash plains	No	---
	Salida	10	---	No	---
611E: Hawick loamy sand, 18 to 25 percent slopes	Hawick	100	Outwash plains	No	---
611F: Hawick loamy sand, 25 to 50 percent slopes	Hawick	100	Outwash plains	No	---
857A: Urban land-Waukegan complex, 0 to 1 percent slopes	Urban land	90	Outwash plains	No	---
	Waukegan	10	Outwash plains	No	---
857B: Urban land-Waukegan complex, 1 to 8 percent slopes	Urban land	90	Outwash plains	No	---
	Waukegan	10	Outwash plains	No	---
858C: Urban land-Chetek complex, 1 to 15 percent slopes	Urban land	65	Outwash plains	No	---
	Chetek	35	Outwash plains	No	---
860C: Urban land-Lester complex, 3 to 15 percent slopes	Urban land	65	Moraines	No	---
	Lester	35	Moraines	No	---
861C: Urban land-Kingsley complex, 3 to 15 percent slopes	Urban land	65	Moraines	No	---
	Kingsley	35	Moraines	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>861E:</b> Urban land-Kingsley complex, 15 to 25 percent slopes	Urban land	65	Moraines	No	---
	Kingsley	35	Moraines	No	---
<b>865B:</b> Urban land-Hubbard complex, 0 to 6 percent slopes	Urban land	65	Outwash plains	No	---
	Hubbard	35	Outwash plains	No	---
<b>880F:</b> Brodale-Rock outcrop complex, 18 to 45 percent slopes	Brodale	70	Hills	No	---
	Rock outcrop	30	Hills	No	---
<b>888B:</b> Kingsley-Lester complex, 2 to 6 percent slopes	Kingsley	55	Moraines	No	---
	Lester	35	Moraines	No	---
	Estherville	5	---	No	---
	Le Sueur	5	---	No	---
<b>888C:</b> Kingsley-Lester complex, 6 to 12 percent slopes	Kingsley	55	Moraines	No	---
	Lester	35	Moraines	No	---
	Estherville	5	---	No	---
	Le Sueur	5	---	No	---
<b>888D:</b> Kingsley-Lester complex, 12 to 18 percent slopes	Kingsley	55	Moraines	No	---
	Lester	35	Moraines	No	---
	Estherville	10	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>889B:</b>					
Wadena-Hawick complex, 2 to 6 percent slopes	Wadena	55	Outwash plains	No	---
	Hawick	35	Outwash plains	No	---
	Jewett	5	---	No	---
	Kennebec	5	---	No	---
<b>889C:</b>					
Wadena-Hawick complex, 6 to 12 percent slopes	Wadena	55	Outwash plains	No	---
	Hawick	35	Outwash plains	No	---
	Jewett	5	---	No	---
	Kennebec	5	---	No	---
<b>889D:</b>					
Wadena-Hawick complex, 12 to 18 percent slopes	Wadena	60	Outwash plains	No	---
	Hawick	40	Outwash plains	No	---
<b>895B:</b>					
Kingsley-Mahtomedi-Spencer complex, 3 to 8 percent slopes	Kingsley	45	Moraines	No	---
	Mahtomedi	23	Moraines	No	---
	Spencer	22	Moraines	No	---
	Kennebec	10	---	No	---
<b>895C:</b>					
Kingsley-Mahtomedi-Spencer complex, 8 to 15 percent slopes	Kingsley	45	Moraines	No	---
	Mahtomedi	23	Moraines	No	---
	Spencer	22	Moraines	No	---
	Kennebec	10	---	No	---



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896E: Kingsley-Mahtomedi complex, 15 to 25 percent slopes	Kingsley	60	Moraines	No	---
	Mahtomedi	30	Moraines	No	---
	Kennebec	10	---	No	---
896F: Kingsley-Mahtomedi complex, 25 to 40 percent slopes	Kingsley	65	Moraines	No	---
	Mahtomedi	35	Moraines	No	---
963C2: Timula-Bold silt loams, 6 to 12 percent slopes, eroded	Timula, eroded	57	Hills	No	---
	Bold, eroded	38	Hills	No	---
	Lindstrom	3	---	No	---
	Waukegan, bedrock substratum	2	---	No	---
963D2: Timula-Bold silt loams, 12 to 18 percent slopes, eroded	Timula, eroded	57	Hills	No	---
	Bold, eroded	38	Hills	No	---
	Marlean	5	---	No	---
963E2: Timula-Bold silt loams, 18 to 25 percent slopes, eroded	Timula, eroded	57	Hills	No	---
	Bold, eroded	38	Hills	No	---
	Marlean	5	---	No	---
1013: Pits, quarry	Pits, quarry	100	Stream terraces		---
1027: Udorthents, wet	Udorthents, wet	100	Stream terraces		---
1029: Pits, gravel	Pits, gravel	100	Outwash plains		---

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1039: Urban land	Urban land	100	Moraines		---
1055: Aquolls and Histosols, ponded	Aquolls, ponded	50	Depressions, Moraines	Yes	2B3, 3
	Histosols, ponded	50	Depressions, Moraines	Yes	1, 3
1072: Udorthents, moderately shallow	Udorthents, moderately shallow	100	Stream terraces		---
1815: Zumbro loamy fine sand	Zumbro, non-flooded	100	Flood plains	No	---
1816: Kennebec variant silt loam	Kennebec	90	Moraines	No	---
	Quam	10	Depressions	Yes	2B3, 3
1821: Alganssee sandy loam, occasionally flooded	Alganssee, occasionally flooded	95	Flood plains	No	---
	Chaska	5	Depressions	Yes	2B3, 4
1824: Quam silt loam, ponded	Quam, ponded	90	Depressions, Moraines	Yes	2B3, 3
	Palms	10	Depressions	Yes	1, 3, 4
1825C: Seelyeville muck, sloping	Seelyeville, sloping	90	Bluffs, Toes	Yes	1
	Seepy Mineral Soils	10	Bluffs, Toes	Yes	1, 3, 4
1827A: Waukegan silt loam, bedrock substratum, 0 to 2 percent slopes	Waukegan, bedrock substratum	90	Outwash plains	No	---
	Rockton	10	---	No	---
1827B: Waukegan silt loam, bedrock substratum, 2 to 6 percent slopes	Waukegan, bedrock substratum	90	Outwash plains	No	---
	Rockton	10	---	No	---

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Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
<b>1827C:</b>					
Waukegan silt loam, bedrock substratum, 6 to 12 percent slopes	Waukegan, bedrock substratum	90	Outwash plains	No	---
	Rockton	10	---	No	---
<b>1848B:</b>					
Sparta loamy sand, bedrock substratum, 2 to 8 percent slopes	Sparta, bedrock substratum	90	Hills	No	---
	Rockton	10	---	No	---
<b>1894B:</b>					
Winnebago loam, 2 to 6 percent slopes	Winnebago	90	Moraines	No	---
	Burkhardt	5	---	No	---
	Carmi	5	---	No	---
<b>1895B:</b>					
Carmi loam, 2 to 8 percent slopes	Carmi	90	Moraines	No	---
	Burkhardt	5	---	No	---
	Winnebago	5	---	Yes	---
<b>1896B:</b>					
Ostrander-Carmi loams, 2 to 6 percent slopes	Ostrander	55	Moraines	No	---
	Carmi	35	Moraines	No	---
	Dickinson	5	---	No	---
	Klinger	5	---	No	---
<b>1898F:</b>					
Etter-Brodale complex, 25 to 60 percent slopes	Brodale	50	Hills	No	---
	Etter	50	Hills	No	---

## Hydric Soils

Dakota County, Minnesota

Map symbol and map unit name	Component	Percent of map unit	Landform	Hydric rating	Hydric criteria
1902B: Jewett silt loam, 1 to 6 percent slopes	Jewett	85	Moraines	No	---
	Antigo	5	---	No	---
	Kingsley	5	---	No	---
	Spencer	5	---	No	---
W: Water	Water	100	---		---

## Hydric Soils

This table lists the map unit components that are rated as hydric soils in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2003) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and others, 2002).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2B3). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
  - A. are somewhat poorly drained and have a water table at the surface (0.0 feet) during the growing season, or
  - B. are poorly drained or very poorly drained and have either:
    - 1) a water table at the surface (0.0 feet) during the growing season if textures are coarse sand, sand, or fine sand in all layers within a depth of 20 inches, or
    - 2) a water table at a depth of 0.5 foot or less during the growing season if permeability is equal to or greater than 6.0 in/hr in all layers within a depth of 20 inches, or
    - 3) a water table at a depth of 1.0 foot or less during the growing season if permeability is less than 6.0 in/hr in any layer within a depth of 20 inches.
3. Soils that are frequently ponded for long or very long duration during the growing season.
4. Soils that are frequently flooded for long or very long duration during the growing season.

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